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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/934,339	08/21/2001	Tajinder Manku	119.7-US-U1	7876

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GATES & COOPER LLP  
HOWARD HUGHES CENTER  
6701 CENTER DRIVE WEST, SUITE 1050  
LOS ANGELES, CA 90045

EXAMINER

GLENN, KIMBERLY E

ART UNIT PAPER NUMBER

2817

DATE MAILED: 03/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/934,339

Applicant(s)

MANKU ET AL.

Examiner

Kimberly E Glenn

Art Unit

2817

*pw*

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 7 is/are rejected.
- 7) ☒ Claim(s) 3-6, 8-10 and 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

### DETAILED ACTION

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hannan et al US Patent 3,898,375 in view of Miya et al US Patent 5,697,087 in view of Ashby US Patent 5,635,892 in view of Novak US Patent 6.606.012.

Hannan et al (fig. 1) an RF filter comprising: first and second capacitors 12, 14 connected in series between an input 20 and an output 22, an inductor 10 connected in parallel to the series connected capacitors, and a shunt resistor 16 connected between ground and the common side of the first and second capacitors.

Hannan does not show the RF filter formed as an integrated circuit or the inductor, capacitors and resistor being low Q element while the filter circuit is a high Q filter. However, it is well known in the art to form an RF filter in an integrated circuit for a compact design and to increase the operating filter frequency.

Miya et al. (Col. 1) teaches forming an integrated RIF filter using inductors and capacitors formed into an IC circuit for miniaturization (see Col. 4, lines 33-65, and Col. 1, lines 25-30).

Ashby et al teaches integrated inductors having a quality factor in the range of around 2 to around 15 (col. 1 lines 55-64).

Novak teaches integrated capacitors having a quality factor less than 1 (col. 3, lines 62-64).

Therefore, it would have been obvious to one of ordinary skill in the art to form the RF filter in an integrated circuit in the device of Hannan et al to reduce the size of the filter and operate in a high microwave frequency range since such technique is well known in the art as shown by Miya et al. (see also col. 2, line 44 - col. 3, line 33).

Therefore, it would have been obvious to one of ordinary skill in the art to replace the general inductor and capacitors of the circuit of Hannan et al with the inductor and capacitors as taught by Ashby et al and Novak. The motivation for this modification would have been to provide the circuit with inductors and capacitors capable of being used in an integrated circuit.

Since, quality factor defined as the ratio of the reactance divided by the resistance. One of ordinary skill in the art would have found to obvious to determine the resistance of the resistor, in light of the low Q inductor and capacitors, to be value such that the quality factor of the filter is high. The motivation for this modification would have been to provide a filter, which loses little energy overtime.

#### ***Allowable Subject Matter***

Claims 3-6, 8-10 and 13 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: With regards to claims 3-6 and 8-10, the prior art of record does not disclose the

value of the shunt resistor be selected to be equal in magnitude to impedance of the inductor and capacitor tank circuit at the center of the operating frequency or at the resonant frequency.

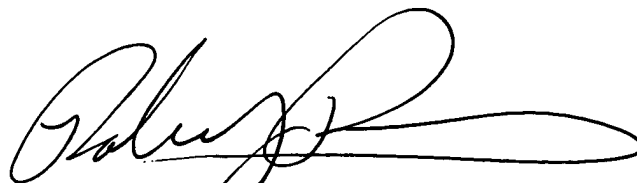
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly E Glenn whose telephone number is (571)-272-1761. The examiner can normally be reached on Monday-Friday 7:30 to 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571)-272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kimberly E Glenn  
Examiner  
Art Unit 2817

keg



Robert Pascal  
Supervisor Patent Examiner  
Technology Center 2